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U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371**

003300-890

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5)

Unassigned **10/018890**INTERNATIONAL APPLICATION NO.
PCT/SE00/01368INTERNATIONAL FILING DATE
28 June 2000PRIORITY DATE CLAIMED
29 June 1999TITLE OF INVENTION
WASHING DEVICEAPPLICANT(S) FOR DO/EO/US
JAN BENGTSSON and ROLAND HARALDSSON

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:


1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☐ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (Signed Declaration will follow)
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
14. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information:

A certified copy of Swedish Application No. 9902456-4 filed 29 June 1999, was submitted during the international phase of prosecution. Thus the claim for priority has been perfected.

**21839**

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5) 10/018990		INTERNATIONAL APPLICATION NO. PCT/SE00/01368		ATTORNEY'S DOCKET NUMBER 003300-890	
21. <input type="checkbox"/> The following fees are submitted:				CALCULATIONS	PTO USE ONLY
Basic National Fee (37 CFR 1.492(a)(1)-(5)): Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to U.S. PATENT AND TRADEMARK OFFICE and International Search Report not prepared by the EPO or JPO \$1,040.00 (960) International preliminary examination fee (37 CFR 1.482) not paid to U.S. PATENT AND TRADEMARK OFFICE but International Search Report prepared by the EPO or JPO \$890.00 (970) International preliminary examination fee (37 CFR 1.482) not paid to U.S. PATENT AND TRADEMARK OFFICE but international search fee (37 CFR 1.445(a)(2)) paid to U.S. PATENT AND TRADEMARK OFFICE \$740.00 (958) International preliminary examination fee (37 CFR 1.482) paid to U.S. PATENT AND TRADEMARK OFFICE but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$710.00 (956) International preliminary examination fee (37 CFR 1.482) paid to U.S. PATENT AND TRADEMARK OFFICE and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 (962)					
ENTER APPROPRIATE BASIC FEE AMOUNT =					
Surcharge of \$130.00 (154) for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492(e)). 20 <input type="checkbox"/> 30 <input type="checkbox"/>				\$ 1,040.00	
Claims	Number Filed	Number Extra	Rate		
Total Claims	22 -20 =	2	X\$18.00 (966)	\$ 36.00	
Independent Claims	1 -3 =	-	X\$84.00 (964)	\$ --	
Multiple dependent claim(s) (if applicable)			+ \$280.00 (968)	\$ --	
TOTAL OF ABOVE CALCULATIONS =				\$ 1,076.00	
Reduction for ½ for filing by small entity, if applicable (see below).				+ \$ --	-
SUBTOTAL =				\$ 1,076.00	
Processing fee of \$130.00 (156) for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492(i)). 20 <input type="checkbox"/> 30 <input type="checkbox"/>				\$ --	
TOTAL NATIONAL FEE =				\$ 1,076.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 (581) per property				+ \$ --	
TOTAL FEES ENCLOSED =				\$ 1,076.00	
				Amount to be refunded:	\$
				charged:	\$
<p>a. <input type="checkbox"/> Small entity status is hereby claimed.</p> <p>b. <input checked="" type="checkbox"/> A check in the amount of \$ <u>1,076.00</u> to cover the above fees is enclosed.</p> <p>c. <input type="checkbox"/> Please charge my Deposit Account No. <u>02-4800</u> in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>d. <input type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>02-4800</u>. A duplicate copy of this sheet is enclosed.</p> <p>NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.</p> <p>SEND ALL CORRESPONDENCE TO:</p> <p>Benton S. Duffett, Jr. BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, Virginia 22313-1404 (703) 836-6620</p> <div style="text-align: right; margin-top: 20px;">  SIGNATURE Benton S. Duffett, Jr. NAME 22,030 REGISTRATION NUMBER December 26, 2001 DATE </div>					

Patent
Attorney's Docket No. 003300-890

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
JAN BENGTTSSON et al.) BOX PCT
Application No.: (unassigned)) Attention: DO/EO/US
Filed: December 26, 2001) Group Art Unit: (unassigned)
For: WASHING DEVICE) Examiner: (unassigned)

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This is a national phase filing of International Application No. PCT/SE00/01368,
filed June 28, 2000.

Please amend the application as indicated.

IN THE ABSTRACT:

Please add the Abstract of the Disclosure that is provided on a separate sheet.

IN THE CLAIMS:

Kindly replace Claims 3 to 5 and 8 to 10 as follows:

3. (Amended) A washing installation as claimed in claims 1, characterised in
that drivers for moving the slices of root vegetable through the pipe (4) are arranged in
each portion with increased diameter.

4. (Amended) A washing installation as claimed in claim 1, characterised in that the foraminated conveyor (16) of the third washer (20) is a vibrating table, at one end of which the slices of root vegetable are discharged from the second washer (15) and at the other end of which the third washer (2) is placed.

5. (Amended) A washing installation as claimed in claim 1, characterised by a first pump (23) for recirculating water from an outlet of the second washer (15) to an inlet of the first washer (3), and a second pump (24) for recirculating water from an outlet of the third washer (2) to an inlet of the second washer (15).

8. (Amended) A washing installation as claimed in claim 6, characterised in that the first section (12) is connected to the second section (13) for reflux of water from the first section (12) to the second section (13) at a lower water level in the second section (13) than in the first section (12), and that the second section (13) is connected to the third section (14) for reflux of water from the second section (13) to the third section (14) at a lower water level in the third section (14) than in the second section (13).

9. (Amended) A washing installation as claimed in claim 6, characterised in that each of the sections (12-14) of the collecting tank (11) has a filter on its inlet side.

10. (Amended) A washing installation as claimed in claim 6, characterised in that the inlet of a hydrocyclone is connected to the first section (12) for separating

discharge water from circulation water, which is refluxable for an extra washing between the second and third washer (15, 20).

Kindly add the following new Claims 11 to 22:

11. (New) A washing installation as claimed in claims 2, characterised in that drivers for moving the slices of root vegetable through the pipe (4) are arranged in each portion with increased diameter.

12. (New) A washing installation as claimed in claim 2, characterised in that the foraminated conveyor (16) of the third washer (20) is a vibrating table, at one end of which the slices of root vegetable are discharged from the second washer (15) and at the other end of which the third washer (2) is placed.

13. (New) A washing installation as claimed in claim 3, characterised in that the foraminated conveyor (16) of the third washer (20) is a vibrating table, at one end of which the slices of root vegetable are discharged from the second washer (15) and at the other end of which the third washer (2) is placed.

14. (New) A washing installation as claimed in claim 2, characterised by a first pump (23) for recirculating water from an outlet of the second washer (15) to an inlet of the first washer (3), and a second pump (24) for recirculating water from an outlet of the third washer (2) to an inlet of the second washer (15).

15. (New) A washing installation as claimed in claim 3, characterised by a first pump (23) for recirculating water from an outlet of the second washer (15) to an inlet of the first washer (3), and a second pump (24) for recirculating water from an outlet of the third washer (2) to an inlet of the second washer (15).

16. (New) A washing installation as claimed in claim 4, characterised by a first pump (23) for recirculating water from an outlet of the second washer (15) to an inlet of the first washer (3), and a second pump (24) for recirculating water from an outlet of the third washer (2) to an inlet of the second washer (15).

17. (New) A washing installation as claimed in claim 7, characterised in that the first section (12) is connected to the second section (13) for reflux of water from the first section (12) to the second section (13) at a lower water level in the second section (13) than in the first section (12), and that the second section (13) is connected to the third section (14) for reflux of water from the second section (13) to the third section (14) at a lower water level in the third section (14) than in the second section (13).

18. (New) A washing installation as claimed in claim 7, characterised in that each of the sections (12-14) of the collecting tank (11) has a filter on its inlet side.

19. (New) A washing installation as claimed in claim 8, characterised in that each of the sections (12-14) of the collecting tank (11) has a filter on its inlet side.

20. (New) A washing installation as claimed in claim 7, characterised in that the inlet of a hydrocyclone is connected to the first section (12) for separating discharge water from circulation water, which is refluxable for an extra washing between the second and third washer (15, 20).

21. (New) A washing installation as claimed in claim 8, characterised in that the inlet of a hydrocyclone is connected to the first section (12) for separating discharge water from circulation water, which is refluxable for an extra washing between the second and third washer (15, 20).

22. (New) A washing installation as claimed in claim 9, characterised in that the inlet of a hydrocyclone is connected to the first section (12) for separating discharge water from circulation water, which is refluxable for an extra washing between the second and third washer (15, 20).


REMARKS

The present Amendment adds an Abstract of the Disclosure on a separate sheet and modifies the claim format only so as to eliminate the use of multiple dependence.

An Information Disclosure Statement is being filed concurrently herewith.

Respectfully submitted,

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Application No. Unassigned
Attorney's Docket No. 003300-890
Abstract of the Disclosure - Page 1 of 1

Attachment to Preliminary Amendment dated December 26, 2001
ABSTRACT OF THE DISCLOSURE

A washing installation comprises a first washer (3) for washing slices of root vegetable with water when slicing the same, a second washer in the form of a rotating pipe (4) supplied with water at an infeed end for the slices of root vegetable washed during slicing, and a third washer (20) with a foraminated conveyor (16) for an additional washing of the slices of root vegetable discharged from the pipe (4) and conveyance of the same to a hopper. On each side of an intermediate portion (7), the rotating pipe (4) has a portion (6, 8) with increased diameter. The intermediate portion (7) is perforated. A water inlet is arranged in the portion (8) with increased diameter after the intermediate portion (7) for replacing the washing water flowing out of the perforations of the intermediate portion (7).

Attachment to Preliminary Amendment dated December 26, 2001
Mark-up of Claims 3 to 5 and 8 to 10

3. (Amended) A washing installation as claimed in claims 1 [or 2],
characterised in that drivers for moving the slices of root vegetable through the pipe (4) are
arranged in each portion with increased diameter.

4. (Amended) A washing installation as claimed in [any one of claims 1-3]
claim 1, characterised in that the foraminated conveyor (16) of the third washer (20) is a
vibrating table, at one end of which the slices of root vegetable are discharged from the
second washer (15) and at the other end of which the third washer (2) is placed.

5. (Amended) A washing installation as claimed in [any one of claims 1-4]
claim 1, characterised by a first pump (23) for recirculating water from an outlet of the
second washer (15) to an inlet of the first washer (3), and a second pump (24) for
recirculating water from an outlet of the third washer (2) to an inlet of the second washer
(15).

8. (Amended) A washing installation as claimed in claim 6 [or 7],
characterised in that the first section (12) is connected to the second section (13) for reflux
of water from the first section (12) to the second section (13) at a lower water level in the
second section (13) than in the first section (12), and that the second section (13) is
connected to the third section (14) for reflux of water from the second section (13) to the

Attachment to Preliminary Amendment dated December 26, 2001
Mark-up of Claims 3 to 5 and 8 to 10

third section (14) at a lower water level in the third section (14) than in the second section (13).

9. (Amended) A washing installation as claimed in [any one of claims 6-8] claim 6, characterised in that each of the sections (12-14) of the collecting tank (11) has a filter on its inlet side.

10. (Amended) A washing installation as claimed in [any one of claims 6-8] claim 6, characterised in that the inlet of a hydrocyclone is connected to the first section (12) for separating discharge water from circulation water, which is refluxable for an extra washing between the second and third washer (15, 20).

WASHING DEVICE

The present invention relates to a washing device or washing installation for slices of root vegetable, especially potatoes.

When producing, for instance, potato crisps by deep-frying, it is important that as much as possible of the free starch that forms in slicing is removed before deep-frying. Otherwise the slices tend to stick together, and a layer of starch quickly forms on the walls of the deep fryer, which is used when deep-frying, so that the deep fryer has to be cleaned, which naturally disturbs the production.

A washing installation is known, which comprises a first washer for washing the slices of root vegetable when slicing, a second washer in the form of a rotating pipe with drivers for moving the slices through the pipe, and a third washer with a foraminated conveyor, for instance, a vibrating table.

With an increasing production of crisps, the water consumption has increased to an excessively high level in the prior-art washing installation, in particular if the production in successive deep fryers is to take place continuously during each shift without any interruption for cleaning.

Therefore, the object of the present invention is to provide a more efficient washing installation involving less water consumption than prior-art devices.

This object is achieved by means of a washing installation according to appended claim 1. Preferred embodiments are stated in the dependent claims.

A washing installation according to the invention is thus of the kind which comprises a first washer for washing slices of root vegetable with water when slicing the same, a second washer in the form of a rotating pipe supplied with water at an infeed end for the slices of

root vegetable washed during slicing, and a third washer with a foraminated conveyor for an additional washing of the slices of root vegetable discharged from the pipe and conveyance of the same to a hopper. According to the invention, such a washing installation is characterised in that the rotating pipe, on each side of an intermediate portion, has a portion with increased diameter, that the intermediate portion is perforated, and that a water inlet is arranged in the portion with increased diameter after the intermediate portion for replacing the washing water flowing out of the perforations of the intermediate portion.

As a result, a considerably increased washing effect is obtained in the pipe, which can be further reinforced by the reflux of washing water counter-currently between the washers which is characteristic of the preferred embodiment of the washing installation according to the invention.

The portions with increased diameter each have a cone-shaped transition at their end facing the intermediate portion and a corresponding transition at their end facing away from the intermediate portion. As a result, each portion with increased diameter forms a basin-like space with efficient washing, in particular if drivers for stirring and moving the slices of root vegetable through the pipe are arranged in each portion with increased diameter.

Advantageously, efficient water use according to the counter-current principle is achieved by means of a first pump for recirculating water from an outlet of the second washer to an inlet of the first washer, and a second pump for recirculating water from an outlet of the third washer to an inlet of the second washer.

The foraminated conveyor of the third washer is advantageously a vibrating table, at one end of which the slices of root vegetable are discharged from the second

washer and at the other end of which the third washer is placed.

Advantageously, a collecting tank is arranged having a first section for the first washer, a second section
5 for the second washer and a third section for the third washer.

The inlet of the first pump is then connected to the second section, and the inlet of the second pump is connected to the third section.

10 To ensure that there is water for the pumping circulation, independently of the supply of fresh water, i.e. to the inlet of the third washer, the first section can be connected to the second section for reflux of water from the first section to the second section at a lower
15 water level in the second section than in the first section, and the second section can be connected to the third section for reflux of water from the second section to the third section at a lower water level in the third section than in the second section.

20 Below, a washing installation according to the invention will be described in more detail with reference to the accompanying drawing, which is a schematic side view of a preferred embodiment of a washing installation for potato slices.

25 The embodiment of a washing installation according to the invention, which is shown in the drawing, has a frame 1, which supports a cutting machine 2 for slicing potatoes, where washing water is supplied directly from the inlet of a first washer 3 to remove starch from the
30 potato slices which are separated after slicing. The potato slices and the washing water are passed, via a funnel and a pipe bend, into a pipe 4, which is caused to rotate by means of a motor 5.

The pipe 4 is arranged to incline slightly downwards from its inlet end to its outlet end and is divided
35 into three portions 6-8. The intermediate portion 7 has a smaller diameter than the two outer portions 6 and 8,

which each have a cone-shaped transition at their end facing the intermediate portion 7 and also a corresponding cone-shaped transition or indentation at their end facing away from the intermediate portion 7. In addition, the intermediate portion 7 is perforated, so that the washing water from the first washer 3 to a great extent passes out through the perforations of the intermediate portion 7 to a collecting funnel 9, from which a tube 10 conveys the collected water to a collecting tank 11 and more specifically to a first section 12 of three sections 12-14 in the collecting tank 11.

A second washer 15 ends in the outer portion 8, so that the water which is drawn off in the intermediate portion 7 is replaced by new water with a lower concentration of starch. In both the outer portions 6 and 8, drivers are arranged for stirring the potato slices and further conveyance of the same.

From the open end of the outer portion 8, which end is facing away from the intermediate portion 7, potato slices and water are washed out at one side of a vibrating table 16 with a perforated board for separating water via a collecting funnel 17 and a tube 18 to the second section 13 of the collecting tank 11. The movements of the vibrating table 16 are provided in conventional manner by means of a motor 19.

At the other side of the vibrating table 16, to which side the potato slices are conveyed by the movements of the vibrating table 16, there is a third washer 20, which flushes fresh water from above and from below on the potato slices on the vibrating table 16. This washing water is collected by a funnel 21 and passed through a tube 22 to the third section 14 of the collecting tank 11.

A first pump 23 pumps water from the second section 13 up to the inlet of the first washer 3 adjacent to the cutting machine 2. A second pump 24 pumps water from the third section 14 to the inlet of the second washer 15 in

the outer portion 8. Finally, a pump and at least one hydrocyclone (not shown) can be used to separate the water rich in starch in the first section 12 into water which is relatively free from starch and which can be supplied as extra washing water over the potato slices on the vibrating table 16 between the second washer 15 and the third washer 20, and water which is very rich in starch to an outlet of the entire washing installation.

In the collecting tank 11, the first section 12 is connected to the second section 13 for reflux of water from the first section 12 to the second section 13 at a lower water level in the second section 13 than in the first section 12. In the same manner, the second section 13 is connected to the third section 14 for reflux of water from the second section 13 to the third section 14 at a lower water level in the third section 14 than in the second section 13.

Finally, each of the sections 12-14 of the collecting tank 11 can have a filter on its inlet side.

It will be appreciated that several modifications of the above-described embodiment of a washing installation according to the invention are possible within the scope of the invention, such as defined by the appended claims.

CLAIMS

1. A washing installation, comprising a first
5 washer (3) for washing slices of root vegetable with
water when slicing the same, a second washer in the form
of a rotating pipe (4) supplied with water at an infeed
end for the slices of root vegetable washed during
slicing, and a third washer (20) with a foraminated con-
10 veyor (16) for an additional washing of the slices of
root vegetable discharged from the pipe (4) and convey-
ance of the same to a hopper, c h a r a c t e r i s e d
in that the rotating pipe (4), on each side of an inter-
mediate portion (7), has a portion (6, 8) with increased
15 diameter, that the intermediate portion (7) is perfo-
rated, and that a water inlet is arranged in the por-
tion (8) with increased diameter after the intermediate
portion (7) for replacing the washing water flowing out
of the perforations of the intermediate portion (7).
- 20 2. A washing installation as claimed in claim 1,
c h a r a c t e r i s e d in that the portions (6, 8) with
increased diameter each have a cone-shaped transition at
their end facing the intermediate portion (7) and each
have a corresponding transition at their end facing away
25 from the intermediate portion (7).
3. A washing installation as claimed in claim 1 or
2, c h a r a c t e r i s e d in that drivers for moving
the slices of root vegetable through the pipe (4) are
arranged in each portion with increased diameter.
- 30 4. A washing installation as claimed in any one of
claims 1-3, c h a r a c t e r i s e d in that the forami-
nated conveyor (16) of the third washer (20) is a vibrat-
ing table, at one end of which the slices of root vege-
table are discharged from the second washer (15) and at
35 the other end of which the third washer (20) is placed.
5. A washing installation as claimed in any one of
claims 1-4, c h a r a c t e r i s e d by a first pump (23)

for recirculating water from an outlet of the second washer (15) to an inlet of the first washer (3), and a second pump (24) for recirculating water from an outlet of the third washer (20) to an inlet of the second washer (15).

5 6. A washing installation as claimed in claim 5, characterised by a collecting tank (11) having a first section (12) for the first washer (3), a second section (13) for the second washer (15) and a third section (14) for the third washer (20).

10 7. A washing installation as claimed in claim 6, characterised in that the inlet of the first pump (23) is connected to the second section (13), and that the inlet of the second pump (24) is connected to the third section (14).

15 8. A washing installation as claimed in claim 6 or 7, characterised in that the first section (12) is connected to the second section (13) for reflux of water from the first section (12) to the second section (13) at a lower water level in the second section (13) than in the first section (12), and that the second section (13) is connected to the third section (14) for reflux of water from the second section (13) to the third section (14) at a lower water level in the third section (14) than in the second section (13).

20 9. A washing installation as claimed in any one of claims 6-8, characterised in that each of the sections (12-14) of the collecting tank (11) has a filter on its inlet side.

25 10. A washing installation as claimed in any one of claims 6-9, characterised in that the inlet of a hydrocyclone is connected to the first section (12) for separating discharge water from circulation water, which is refluxable for an extra washing between the second and the third washer (15, 20).

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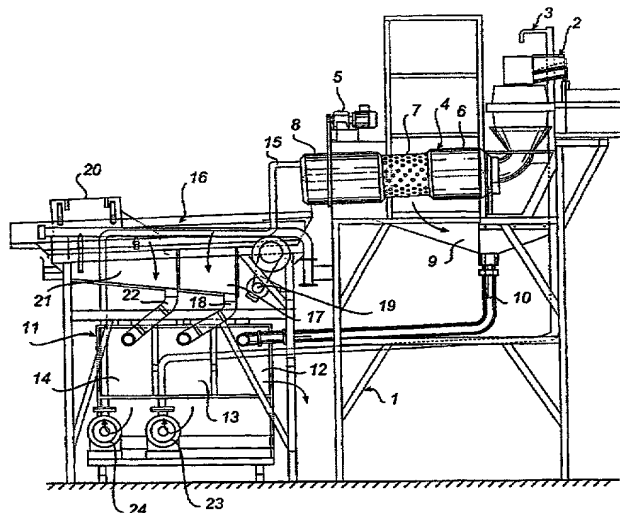
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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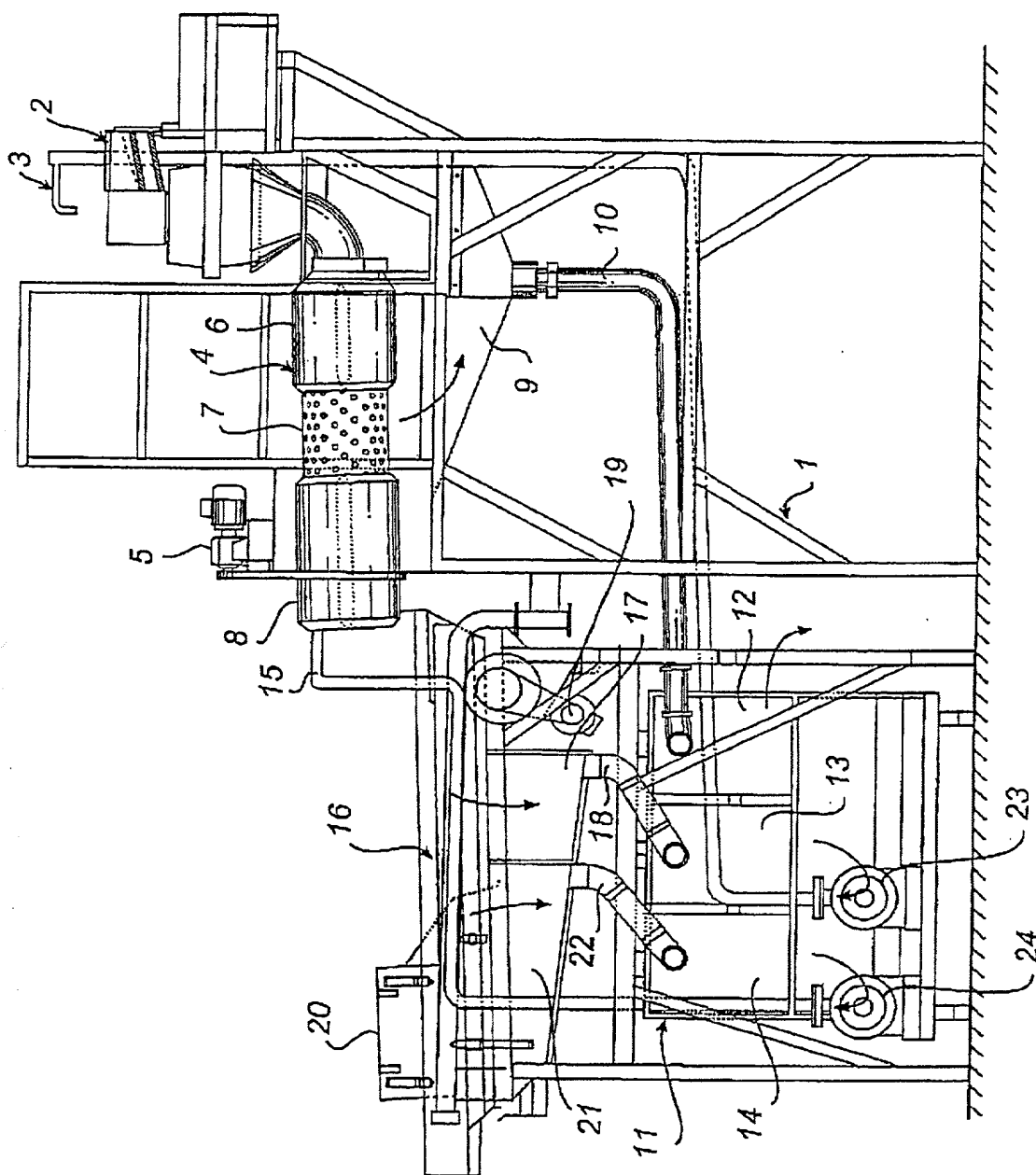
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: WASHING DEVICE



(57) Abstract: A washing installation comprises a first washer (3) for washing slices of root vegetable with water when slicing the same, a second washer in the form of a rotating pipe (4) supplied with water at an infeed end for the slices of root vegetable washed during slicing, and a third washer (20) with a foraminated conveyor (16) for an additional washing of the slices of root vegetable discharged from the pipe (4) and conveyance of the same to a hopper. On each side of an intermediate portion (7), the rotating pipe (4) has a portion (6, 8) with increased diameter. The intermediate portion (7) is perforated. A water inlet is arranged in the portion (8) with increased diameter after the intermediate portion (7) for replacing the washing water flowing out of the perforations of the intermediate portion (7).

WO 01/06879 A1



**COMBINED DECLARATION AND POWER OF ATTORNEY
FOR UTILITY PATENT APPLICATION**

Attorney's Docket No.

003300-890

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I BELIEVE I AM THE ORIGINAL, FIRST AND SOLE INVENTOR (if only one name is listed below) OR AN ORIGINAL, FIRST AND JOINT INVENTOR (if more than one name is listed below) OF THE SUBJECT MATTER WHICH IS CLAIMED AND FOR WHICH A PATENT IS SOUGHT ON THE INVENTION ENTITLED:

Washing Device

the specification of which

(check one)

☐

is attached hereto;

☒

was filed on June 28, 2000 as

Application No. PCT/SE00/01368

and was amended on _____;
(if applicable)

I HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE;

I ACKNOWLEDGE THE DUTY TO DISCLOSE TO THE OFFICE ALL INFORMATION KNOWN TO ME TO BE MATERIAL TO PATENTABILITY AS DEFINED IN TITLE 37, CODE OF FEDERAL REGULATIONS, Sec. 1.56 (as amended effective March 16, 1992);

I do not know and do not believe the said invention was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to said application; that said invention was not in public use or on sale in the United States of America more than one year prior to said application; that said invention has not been patented or made the subject of an inventor's certificate issued before the date of said application in any country foreign to the United States of America on any application filed by me or my legal representatives or assigns more than twelve months prior to said application;

I hereby claim foreign priority benefits under Title 35, United States Code Sec. 119 and/or Sec. 365 of any foreign application(s) for patent or inventor's certificate as indicated below and have also identified below any foreign application for patent or inventor's certificate on this invention having a filing date before that of the application(s) on which priority is claimed:

COMBINED DECLARATION AND POWER OF ATTORNEY

Attorney's Docket No.

003300-890

COUNTRY/INTERNATIONAL	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED
Sweden	9902456-4	29 June 1999	YES <u>X</u> NO <u> </u>
			YES <u> </u> NO <u> </u>

I hereby appoint the following attorneys and agent(s) to prosecute said application and to transact all business in the Patent and Trademark Office connected therewith and to file, prosecute and to transact all business in connection with international applications directed to said invention:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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